



SUBSTITUTE SPEC
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DESK LAMP WITH FUNCTION OF GENERATING NEGATIVE IONS

BACKGROUND OF THE INVENTION

1. FIELD OF THE INVENTION

The present invention ^{relates} ~~is relating~~ to a desk lamp, particularly to a desk lamp with ^a function of generating negative ions.

2. ~~Description of the Prior Art~~ ³ BACKGROUND OF THE INVENTION

Conventionally ^{has a} a desk lamp ^{is} only ^{with} lighting function. It should be improving the ~~air~~ ^{of air} condition ^{surrounding} the desk for increasing the reading ^{efficiency,} ~~efficient.~~ A conventional portable negative ion generator ^{has been included} ~~had been brought~~ from TW Patent Publication No. 337710. ^{A size} Size ^{of} the portable negative ion generator should be as little as possible to ^{be carried} ~~carry~~ easily, but, if the portable negative generator is too small, it ^{could be easily} ~~is easy to~~ ^{lost,} lose. Meanwhile, if the portable negative ion generator ^{is located too far from a} ~~leaves~~ reader's head ^{too far,} the negative ions would be ^{diluted} ~~dilute~~ and its help would be decreased.

An electrical light bulb with ^a function of generation negative ions and economizing energy is disclosed in TW Patent Publication No. 423704. The electrical light bulb comprises a contact base ^{connected} ~~connecting~~ with a bulb body. A negative ion generator is installed in the contact base. Because ^{that} the life ^{time} of the light bulb ^{is regular,} ~~is regular,~~ the expensive negative ion generator would be abandoned ^{at the end of the life of} ~~when the light bulb is out of the~~ ^{life-time.} Also, specifications of the light bulb and conventional bulb are not interchangeable.

SUMMARY OF THE INVENTION

A primary object of the present invention is to provide a desk lamp with ^a function of generating negative ions. An air outlet plane of a negative ion generator is installed and ^{directed} ~~toward~~ internal wall of a lamp body to improve the atmosphere around the desk lamp for increasing reading efficient and not easy to lose.

A second object of the present invention is to provide a desk lamp with function of generating negative ions. An air outlet plane of a negative ion generator is installed and

1 ^{directed} toward internal wall of a lamp body, and a fan is set on a air inlet plane of the negative
2 ion generator, so that negative ions from the negative ion generator ^{are} exhausted outside
3 the lamp body.

4 According to the invention, the desk lamp with ^a function of generating negative ions
5 mainly comprises a lamp body and a negative ion generator. The lamp body ^{includes} ~~is consisted~~
6 ~~of~~ a lamp base, a lamp arm and a lampshade. The negative ion generator has ^{an} air outlet
7 plane toward ^{an} internal wall of the lamp body and is installed at ^{a predetermined} ~~an appropriated~~ position
8 inside the lamp base, the lamp arm or the lampshade, so that negative ions made ^{by} ~~from~~ the
9 negative ion generator ^{are} ~~will be~~ exhausted outside the lamp body. ^{Preferably,} ~~Perfectly,~~ an air inlet
10 plane of the negative ion generator is installed with a fan for ^{exhausting} ~~exhausted~~ the negative ion
11 outside the lamp body ² ~~easily~~.

12 DESCRIPTION OF THE DRAWINGS

13 Fig.1 is a schematic 3-D view of a desk lamp with function of generating negative
14 ions of a first embodiment of the present invention;

15 Fig.2 is a schematic side view of a desk lamp with function of generating negative
16 ions of the first embodiment of the present invention;

17 Fig.3 is a schematic 3-D view of a desk lamp with function of generating negative
18 ions of a second embodiment of the present invention;

19 Fig.4 is a schematic 3-D view of a desk lamp with function of generating negative
20 ions of a third embodiment of the present invention;

21 Fig.5 is an exploded perspective view of a desk lamp with function of generating
22 negative ions of a fourth embodiment of the present invention;

23 Fig.6 is a schematic side view of a desk lamp with function of generating negative
24 ions of the fourth embodiment of the present invention;

25 Fig.7 is a schematic side view of a desk lamp with function of generating negative
26 ions of a fifth embodiment of the present invention; and

27 Fig.8 is a schematic side view of a desk lamp with function of generating negative

1 ions of a sixth embodiment of the present invention.

2 DETAIL DESCRIPTION OF THE INVENTION

3 Referring to the drawings attached, the present invention ~~will be described by means~~
4 ~~of the embodiment below~~. includes the embodiments described below.

5 According to a first embodiment of the present invention ^{shown} ~~showed~~ in Fig.1 and 2, a
6 desk lamp with ^afunction of generating negative ions ^{includes} ~~mainly comprises~~ a lamp body 110 and
7 a negative ion generator 120. The lamp body 110 ^{consists} ~~is consisted~~ of a lamp base 111, a
8 lamp arm 112 and a lampshade 113. The lamp base 111 is a base of the desk lamp for
9 placing on the desk. A power switch 130 is set on the lamp base 111 for controlling the ^a
10 light source and the negative ion generator 120. The lamp arm 112 connects the lamp
11 base 111 with ^{the} lampshade 113. The lampshade 113 has ^aconnector for installing a lamp
12 tube or a light bulb. The negative ion generator 120 is installed at an ^{appropriate} ~~appropriated~~
13 position inside the lamp body 110. The negative ion generator 120 ^{includes} ~~comprises~~ driving
14 circuits and negative ion discharging electrodes (not show in the drawings). Theory of
15 forming ^{the} negative ion generator 120 is commonly known and thus not described in detail
16 herein. In this embodiment, the negative ion generator 120 is installed on ^{an} internal wall
17 of the lamp base 111. The negative ion generator 120 has an air outlet plane 121 and a
18 air inlet plane 122, wherein two sides of the air outlet plane 121 forms a plurality of
19 connecting portions 123 for fixing the air outlet plane 121 ^{to the} ~~toward~~ internal wall of the
20 lamp base 111, so that negative ions from the negative ion generator 120 ^{are} ~~will be~~
21 exhausted outside the lamp body 110. Preferably, the air outlet plane 121 of the
22 negative ion generator 120 is attached on the internal wall of the lamp base 111 for
23 avoiding air turbulence. Therefore, the desk lamp with function of generating negative
24 ions will increase reading ^{efficiency of a} ~~efficient of~~ reader at ^a front of the desk lamp.

25 In addition, according to the present invention the negative ion generator ^{can} ~~could~~ be
26 installed in ^{another} other position inside ^{the} a lamp body. ^{Referring to} ~~Plases-referring~~ Fig.3, a desk lamp with
27 ^afunction of generating negative ions according to a second embodiment of the present

1 invention ^{includes} ~~mainly comprises~~ a lamp body 210 and a negative ion generator 220 which
2 ^{has a} ~~structure is~~ ^{that is the} same as the negative ion generator 120 described in the first embodiment.
3 The lamp body 210 ^{consists} ~~is consisted~~ of a lamp base 211, a lamp arm 212 and a lampshade 213.
4 A power switch 230 is set on the lamp base 211. The lampshade 213 is a light source to
5 define a light region. The negative ion generator 220 has an air outlet plane 221 and
6 connecting portions 222 at perimeters of the air outlet plane 221. The negative ion
7 generator 220 is installed on ^{an} internal wall inside the lamp arm 212 by the connecting
8 portions 222, and the air outlet plane 221 is ^{located} ~~is~~ toward the light region of the desk lamp to
9 improve the atmosphere for increasing reading efficient.

10 Referring ^{to} Fig. 4, a desk lamp with function of generating negative ions according to
11 a third embodiment of the present invention ^{includes} ~~main comprises~~ a lamp body 310 and a
12 negative ion generator 320. Structures of a lamp base 311, a lamp arm 312, a lampshade
13 313 and a power switch 330 are ^{the} ~~as~~ same as the lamp base 111, the lamp arm 112, the
14 lamp shade 113 and the power switch 130 in the first embodiment, and thus not described
15 in detail herein. The ^{lamp} ~~same~~ shade 313 has a plurality of air outlet holes 314. The
16 negative ion generator 320 is installed in an internal wall inside the lamp shade 313 and
17 has ^{an} ~~a~~ air outlet plane 321 corresponding to the air outlet holes 314. Two sides of the air
18 outlet plane 321 ^{form} ~~forms~~ connecting portions 322 to connect to the lampshade 313.

19 Referring ^{to} Figs 5 and 6, a desk lamp with ^a function of generating negative ions
20 according to a fourth embodiment of the present invention ^{includes} ~~comprises~~ a lamp body 410
21 and a negative ion generator 420, which ^{has} ~~structures are~~ similar to the lamp body 110 and a
22 negative ion generator 120 in the first embodiment. The desk lamp with function of
23 generating negative ions further ^{includes} ~~comprises~~ a fan 430 which is ^{like} ~~is~~ a D/C brushless fan or
24 a common micro fan. The lamp body 410 ^{consists} ~~is consisted~~ of a lamp base 411, a lamp arm
25 412 and a lampshade 413. The lamp base 411 has a plurality of air outlet holes 414 and
26 ^{sets} ~~is~~ a power switch 440. A plate 415 with a plurality of air outlet holes 416 is ^{located} ~~setting~~ at
27 ^a ~~bottom~~ of the lamp base 411. The negative ion generator 420 and the fan 430 are

1 installed inside the lamp base 411. In this embodiment, an air outlet plane 421 of the
2 negative ion generator 420 ^{corresponds} ~~is corresponding~~ to the air outlet holes 414 of an internal wall
3 of the lamp base 411 toward light region defined by the lamp shade 413. And an air inlet
4 plane 422 of the negative ion generator 420 ^{corresponds} ~~is corresponding~~ to a wind outlet 431 of the
5 fan 430. The fan 430 has a plurality of connecting portions 432 and ^{is} ~~installed on~~ ^{the} internal
6 wall of the lamp base 411 through the negative ion generator 420 by a plurality of bolts
7 433 or other fixing elements. The negative ion generator 420 has a plurality of
8 connection portions 423 and ^{is} ~~installed~~ on the internal wall of the lamp base 411 by the
9 bolts 433 or fixing elements. When the fan 430 is operating, the negative ions from the
10 negative ion generator 420 ~~will be~~ ^{are} exhausted outside the lamp base 411 toward the light
11 region ^① ~~easily~~.

12 Referring to Fig. 7, a desk lamp with function of generating negative ions of a fifth
13 embodiment of the present invention ^{includes} ~~comprises~~ a lamp body 510 and a negative ion
14 generator 520 which ^{have} ~~structures are~~ similar to the lamp body 210 and a negative ion
15 generator 220 in the second embodiment, wherein the negative ion generator 520 is
16 installed in a lamp arm 512 of the lamp body 510. The desk lamp with ^a ~~function of~~
17 generating negative ions ^{includes} ~~further comprises~~ a fan 530 with a wind outlet 531 ~~which is~~
18 corresponding to an air inlet plane 522 of the negative ion generator 520. Preferably,
19 the negative ion generator 520 and the fan 530 are combined together ^{as} ~~to be~~ a module ~~for~~
20 ^{installed} ~~installing~~ inside the lamp arm 512 ^② ~~easily~~. The lamp arm 512 connects the lamp base 511
21 with ^a ~~lampshade~~ 513, and has a plurality of air inlet holes 515 and a plurality of air outlet
22 holes 514. The air outlet holes 514 ^{correspond} ~~are corresponding~~ to an air outlet plane 521 of the
23 negative ion generator 520. The negative ion generator 520 has a plurality of
24 connecting portions 523 ~~for be fixed~~ ^{turned on and off} on internal wall of the lamp arm 512. The negative
25 ion generator 520 can be ~~opened or closed~~ ^{turned on and off} ~~droved~~ by a power switch 540 ^{located} ~~set~~ on the lamp
26 base 511. When the fan 530 is operating, the negative ions from the negative ion
27 generator 520 ~~will be~~ ^{are} exhausted outside the lamp arm 512 ^③ ~~smoothly~~.

1 Referring ^{to} Fig.8, a sixth embodiment is almost the same as the third embodiment of
2 the present invention, ^{and includes} comprising a negative ion generator 620 and a lamp body 610
3 which ^{has} ~~is consisted of~~ a lamp base 611, a lamp arm 612 and a lampshade 613 ^{that is the same} ~~as same~~ as
4 the negative ion generator 320 and the lamp body 310 in the third embodiment. But the
5 sixth embodiment of the present invention further ^{includes} ~~discloses~~ an independent fan 630.
6 The negative ion generator 620 and the independent fan 630 are installed inside the
7 lampshade 613 but not combined together. The lampshade has a plurality of air outlet
8 holes 614 and a plurality of air inlet holes 615. When the fan 630 is operating, air
9 outside the lampshade 613 will be ^{drawn into} ~~suck in~~ the lamp shade 613 by passing through the air
10 inlet holes 615 and the negative ions from the negative ion generator 520 will be
11 exhausted outside the lampshade 613 through the air outlet holes 614. The generated
12 negative ions are ^{discharged the} ~~close to~~ reader by passing through the air outlet holes 614 for increasing
13 reading efficiency.

14 The above description of embodiments of this invention is intended to be illustrated
15 and not limiting. Other embodiments of this invention will be obvious to those skilled
16 in the art in view of the above disclosure.

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